

can of course never be entirely forgotten, but a republication in English of his own writings, of which the present paper is the briefest possible abstract, cannot fail to make better understood the real importance of his place in the early development of natural history in America.

*The D. R. Dickey Memorial Library of Vertebrate Zoology, California Institute of Technology, March 21, 1934.*

## BIRD NOTES FROM SOUTHERN ARIZONA

By BERRY CAMPBELL

During the months of July and August, 1933, my wife and I made a general vertebrate collection in southern Arizona, mostly in the vicinity of Pena Blanca Spring, Santa Cruz County, but also in Miller Canyon, Huachuca Mountains, and near the town of Patagonia. Some specimens were taken as we traveled between these points, and a few were given to us by ranchers. The first of these localities is in the broken country to the west of the Santa Cruz Valley. It is about seven miles west of Nogales and three miles north of the international boundary, as the crow flies. The elevation is close to 4000 feet. Three canyons, two of which are rather small, empty into a large open wash. At this junction is situated Pena Blanca Spring. The water flow is small but constant and has been led into a tank, twenty by twenty by five feet, which serves as a reservoir for a cattle trough. There is a slight overflow the year around. Thus local animal life that needs it is insured a constant water-supply. A mile or so below the spring, the canyon again "boxes" up. On the United States War Department maps, the name of this spring and canyon is erroneously given as "Pino Blanco."

The Pena Blanca area is characterized chiefly as Upper Sonoran grassland. Only in the favorable localities such as in ravines and the larger canyons and on the north facing slope are brush and trees to be found. However, as the country is quite broken, these situations are common enough to make a fair stand of live oak, walnut, and sycamore possible. The latter species is particularly abundant in the neighboring Walker Canyon. The rainy season in this region lasts from early July to late September. At this time the grass grows knee deep where grazing is not too heavy.

Though at first glance the district looks to be Upper Sonoran, the following list of the more indicative birds seen or collected before July 15 shows some interesting paradoxes:

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|---|--|
| <i>Cyrtonyx montezumae mearnsi</i> Nelson           | <i>Myiarchus cinerascens cinerascens</i> (Lawrence)    |
| <i>Columba fasciata fasciata</i> Say                | <i>Myiarchus tuberculifer olivascens</i> Ridgway       |
| <i>Coccyzus americanus occidentalis</i> Ridgway     | <i>Myiochanes richardsonii richardsonii</i> (Swainson) |
| <i>Tyto alba pratincola</i> (Bonaparte)             | <i>Pyrocephalus rubinus mexicanus</i> Sclater          |
| <i>Otus asio cineraceus</i> (Ridgway)               | <i>Tachycineta thalassina lepida</i> Mearns            |
| <i>Otus trichopsis</i> (Wagler)                     | <i>Sitta carolinensis nelsoni</i> Mearns               |
| <i>Micropallas whitneyi whitneyi</i> (Cooper)       | <i>Phainopepla nitens lepida</i> Van Tyne              |
| <i>Cyananthus latirostris</i> Swainson              | <i>Dendroica nigrescens</i> (Townsend)                 |
| <i>Dryobates scalaris cactophilus</i> Oberholser    | <i>Setophaga picta picta</i> Swainson                  |
| <i>Antrostomus vociferus arizonae</i> Brewster      | <i>Tangavius aeneus aeneus</i> (Wagler)                |
| <i>Phalaenoptilus nuttallii nuttallii</i> (Audubon) | <i>Icterus parisorum</i> Bonaparte                     |
| <i>Tyrannus vociferans</i> Swainson                 |  |
| <i>Myiarchus tyrannulus magister</i> Ridgway        |  |

*Guiraca caerulea interfusa* Dwight and  
Griscom  
*Piranga flava hepatica* Swainson

*Piranga rubra cooperi* Ridgway  
*Sialia sialis fulva* Brewster

Many of these we found breeding, and there is every reason to believe that all of them breed in the vicinity.

One explanation may be offered for this apparently queer occurrence of the Elf Owl. It has been generally held that to look for these birds out of the sahuaro cactus belt was a waste of time (see Swarth, Proc. Calif. Acad. Sci., ser. 4, 18, 1929, p. 296). The thesis I wish to advance is that the Elf Owl has been imperfectly understood, and that it is not limited to the giant cactus belt, but is equally at home in the foothill country. The nearest grove of sahuaros seems to be that near Continental, thirty miles away, and this stand is composed of ten or twelve plants in all (Swarth, *op. cit.*). Yet apparently these little owls actually outnumber the Screech Owls at Pena Blanca. A downy young, being fed by the parent bird, was collected July 18, 1933. Surely we must revise our ideas concerning the habits of the bird. The presence of *Tangavivus aeneus aeneus*, *Myiarchus tyrannulus magister*, *M. cinerascens cinerascens*, and *Dryobates scalaris cactophilus* may perhaps also be explained in the same manner. An annotated list of the less common species collected follows.

*Cyrtonyx montezumae mearnsi*. These Quail are abundant at Pena Blanca, probably because of the closed season. The ranchers in the region, who are rather sharp observers, maintain that the birds nest in the rainy season, in other words, in July and August. This I was unable to verify, though I believe it to be true. This is the only time they would have adequate cover for the young. When we first arrived, in late June, all of the quail that we saw were in pairs. I watched several pairs early in the rainy season and am convinced that there were no juveniles. I was, however, unable to observe them enough later in the season to check up on the point.

*Tyto alba pratincola*. Specimen collected at Pena Blanca Spring: no. 2092, July 8, 1933. These birds, which have been considered rare in southern Arizona (Swarth, Pac. Coast Avif., no. 10, 1914), are in reality quite common—in the area near Pena Blanca at least. Two carcasses were found in a cave near the spring. Specimen number 2092 was collected out of an old mine shaft. In Walker Canyon I heard one fly over and call, August 2, 1933. I am told that they nest commonly a mile or so down Walker Canyon, where it "boxes" up.

*Otus asio cineraceus*. Specimens collected at Pena Blanca Spring: nos. 2002-04, June 29, 1933; 2063, July 5, 1933; 2156, July 17, 1933. Patagonia: no. 2391, August 24, 1933. These birds were the most abundant Screech Owls in the Pena Blanca area and were heard commonly at night. Stomach contents were as follows: 2002-03, Hemiptera, spiders, vinagerones, and scorpions; 2004, 8-inch *Diadophis*, grasshopper; 2063, two vinagerones and a large beetle; 2391, cicadas.

*Otus trichopsis*. Specimens collected at Pena Blanca Spring: nos. 189, September 2, 1931; 190, September 1, 1931; 2007, June 30, 1933; 2255, August 2, 1933. Walker Canyon: nos. 2269, August 2, 1933; 2270, August 3, 1933. Finding these owls at Pena Blanca extended the range westward from the Huachucas. They are quite abundant and may be heard calling with the regular Screech Owls. They seem to make all of the calls of *cineraceus* and have a distinctive note besides. This note is a one-pitched whistle in a drum-roll rhythm, ---' ---' ---' ---' ---' ---' ---'. We found a family of young ones, apparently just out of the nest, in Walker Canyon. They were tame and could be approached easily with a flashlight. When a light was shined on them, they seldom would look at it and consequently it was difficult to get a reflection from their eyes. It was possible, by making a mouselike squeak, to attract the owl's

attention and so get the reflection. Stomach contents were as follows: nos. 190, mantis and grasshopper; 189, mantis, grasshopper, and centipede; 2269, 2 *Stenopelmatus*, 2 caterpillars, and one very large beetle; 2007, 2 large hairy caterpillars and one vinagerone; 2269, beetle remains, finely broken. The presence of *Stenopelmatus*, or mole cricket, indicates that these owls must feed from the ground, in part at least. I have observed them on the ground only once.

*Bubo virginianus pallescens*. Specimen collected at Pena Blanca Spring: no. 2211, July 22, 1933. Swarth (1929) mentions that two specimens collected near Patagonia were very dark and resembled the subspecies *pacificus*. My specimen agrees with this. I compared it with a large series of Horned Owls in the Dickey collection at the California Institute of Technology and was unable to distinguish it from the *pacificus* specimens from the coast, but could do so from any of the *pallescens*.

*Micropallas whitneyi whitneyi*. Specimens collected at Pena Blanca Spring: nos. 2005, June 30, 1933; 2061-62, July 4, 1933; 2078, July 7, 1933. Walker Canyon: no. 2164, July 18, 1933. In the minds of most ornithologists, there is no use in looking for these owls outside of the sahuaro cactus belt. This error had probably delayed their discovery elsewhere. Surely it is a mistake to believe that they are limited, for, as mentioned above, they are the most abundant of the owls in the Pena Blanca area. That they nest here there can be no doubt, for number 2164 is a juvenile still in down. As I was stalking it, the parent bird came up and fed it. Stomach contents were as follows: no. 2005, five large bot fly pupae and one Hemiptera; 2078, vinagerone.

*Strix occidentalis lucida*. Specimen collected at Miller Canyon: no. 2335, August 18, 1933. Some notes on the calling of this owl were taken which seem worth recording here. I had learned the Spotted Owl call from Dr. L. H. Miller, and in the Huachucas was surprised to find that I was several notes higher in pitch than the owls which I first heard near the summit of the mountains. Later I heard one that called the same note which I had learned. Several days later, two came to my call and by the fact that there was such a considerable interval between their pitches, I predicted that they were of different sex and that the lower was the male. I collected the latter and found that the second guess was correct, but was unable to verify the other. Analogy with Horned Owls would lead one to believe it to be so. It is seldom, I believe, that Spotted Owls become active before the last light of dusk has disappeared, but I was able, by imitating their call, to rouse some in the early twilight, not more than fifteen minutes after sundown. Before it was too dark to shoot without the aid of a flashlight, a pair, mentioned above, flew a third of a mile across a canyon to a station thirty feet from the place where I was decoying them and showed every sign of great excitement.

*Antrostomus vociferus arizonae*. In the Pena Blanca region, Whip-poor-wills were abundant in 1931, when we were there in June. Dr. L. H. Miller collected several. In 1933, however, none was heard, though we listened carefully for them during our six weeks stay.

*Basilinna leucotis*. Specimen collected at Miller Canyon: no. 2291, August 11, 1933. An adult male of this species was shot as it flew in and out of a dense fir tree. It was noticed that when the bird faced the observer, both of the white marks on the sides of the head showed plainly.

*Passerina ciris*. Specimen collected at Pena Blanca Spring: no. 2237, July 27, 1933. An adult male, though in the regular female plumage, was collected in a large live oak tree several hundred yards from the spring.

*Johns Hopkins Medical School, Baltimore, Maryland, January 23, 1934.*